

REMARKS/ARGUMENTS

Claim Rejections

35 U.S.C. § 112

The Examiner has stated:

Claims 24, 26, 30, 31, and 35-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There are two claims 24 in the present application, and they recite identical limitations. Claim 26 depends on claim 25 that is not existed in the present application. Claims 29 and 30 are confusing because they both depend on claim 27 and recite identical limitations. Claims 34 and 35 are also confusing because they both depend on claim 32 and recite identical limitations. Correction and/or clarification are required.

Applicant has renumbered the second claim 24 as claim 25 in order to correct and inadvertent numbering error. The limitation of renumbered claim 25 has been changed to the following:

said means for directing comprises:

a means for measuring a physical quantity selected from the physical quantities consisting of distance, speed, and acceleration; and

a logic unit through which the means for measuring communicates with the means for rotating.

The requisite antecedent basis for this limitation is found in lines 5 through 19 on page 7 of the original application, which provide:

A device known in the art for measuring distances could also determine the distance between a known elevation (or other position) and the platform 6. Such device communicates through a, preferably, but not necessarily, programmable, logic unit 13 such as a computer with the means for rotating 3. Initial rotation would commence at a given distance, and rotation back to the

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original orientation of the seat 1 would begin at another specified distance, with such criteria either set into the logic unit 13 at the factory or, when the logic unit is programmable, programmed into the logic unit 13 by a user. Communication in this embodiment would preferably, but not necessarily, be by digitally encoded radio signals.

Finally, when cables 7 are employed to propel the platform 6, any device well known in the art for measuring the distance a cable 7 moves could function just as does the device for measuring distances discussed in the preceding paragraph.

Also, as discussed above, any device known in the art for measuring speed or acceleration or any other measurable criterion associated with the amusement ride could determine the time for rotation and the time for return of the seat 1 to its original orientation just as discussed for the device for measuring distances.

Claims 30 and 35 have also been amended to recite the preceding limitation.

35 U.S.C. § 102

Next, the Examiner declares:

Claims 1, 2, 5, 7, 10, 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Moser et al U.S. Patent 5,941,777.

Moser et al disclosed a ride comprising at least one seat (17); an arm (21) attached to the seat; means (14) for rotating the arm and seat and having a point of rotation (12); a platform (16) and the arm being rotatably attached to the platform and the means for rotating (14) being connected to the platform; a lever arm (7b) that connects the arm to the means (14) so that the point of rotation of the means for rotating will be aligned with the center of gravity of a participant sitting on the seat; means (11) for directing the rotation and directing the seat and arm be returned to the pre-rotation of the arm and seat; sensors (39) for measuring a physical quantity such as angle of rotation (column 2, lines 23-24), and a logic unit (37) through which the means for measuring communicated with the means for rotating (see column 2, lines 20-24); and the arm and seat can rotate at least 90 degrees as shown in Fig. 1.

Claim 1 of the present application states:

1. A controllably rotatable seat, which comprises:

a seat;

an arm attached to said seat;

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a means for rotating said arm and said seat, said means for rotating having a point of rotation;

a platform, said arm being rotatably attached to said platform and said means for rotating being connected to said platform; and

a means for directing that rotation occur and directing that said seat and said arm be returned substantially to the pre-rotation orientation of said arm and said seat.

Applicant respectfully must indicate that the arm (21) in the device of Moser et al. (United States patent no. 5,941,777) is not attached to the seat (17). Instead, the arm (21) is connected to the car (15), which is the analog of the platform in claim 1 of the present application, and to two arms (7 and 8) that are rotated by drive means (11) and hydraulic actuators (14). Lines 7 through 19 in column 2 of Moser et al. explain:

As shown in FIGS. 1 and 2, ride 1 comprises a passenger car 15 presenting a supporting structure 16, and three rows 17 of seats fitted to structure 16 and facing in the same horizontal direction crosswise to a rotation axis 18. Car 15 is fitted to arms 7 and 8, and in particular to portions 7b and 8b. More specifically, along axis 18, structure 16 presents two articulated joints 21 by which it is connected to the free ends of portions 7b and 8b, and by which it is permitted to rotate about axis 18 during operation of ride 1. Each joint 21 permits three degrees of freedom of car 15, and the joint 21 between portion 7b of arm 7 and the corresponding axial end of car 15 presents a known brake device 36, such as an Eaton Airflex 325DC Clutch.

Lines 64 in column 1 through 6 in column 2 of Moser et al. further clarify the structure as follows:

As shown in FIG. 2, uprights 4 and 5 are fitted at the top and with respective arms 7 and 8 rotated by respective known drive means 11 about a horizontal axis 12. Each arm 7, 8 comprises a respective portion 7a, 8a pivoting on the top and of respective upright 4, 5 and which may therefore only rotate about axis 12; and a respective portion 7b, 8b hinged to and rotatable with respective portion 7a, 8a about axis 12, and which may be rotated about its hinge axis 13 by a respective hydraulic actuator 14 fitted to portion 7a, 8a and presenting a sliding rod hinged at one end to portion 7b, 8b.

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Thus, in Moser et al. the rotating means (14) rotate the arms (7 and 8) about the ends of which the car or platform (15) rotates freely. The car or platform (15) is, thus, rotated with respect to the surface upon which the structure (2) is placed, but the seats (17) are not rotated (or even rotatable) with respect to the car or platform (15).

Lines 2 to 23 on page 1 of the present application explain the operation of the structure of claim 1:

The seat 1 is attached to an arm 2 that is rotated by a means for rotating 3 which is preferably an electric motor but which can be pneumatics, hydraulics, or any other mechanism that is well known in the art for producing rotation. (The term "seat" is used herein to mean either a single seat or a group of two or more seats.)

Preferably, but not necessarily, a lever arm 4 connects the arm 2 to the means for rotating 3 so that the point of rotation of the means for rotating 3 will be substantially aligned with the center of gravity of a participant sitting on the seat 1.

Also preferably, but not necessarily, the lower portion 5 of the seat 1 is a saddle seat, *i.e.*, it is formed in substantially the same shape as a saddle for a horse, in order to cause the participant to feel exposed to excitement.

The arm 2 and, consequently, the seat 1 can preferably, but not necessarily, rotate at least ninety degrees.

Preferably, but not necessarily, there would also be a means for retaining the participant to the seat 1, such as a harness.

The arm 2 and the means for rotating 3, as well as the lever arm 4 when employed, are attached to a platform 6, which can be slidably connected to a vertical tower or placed upon any other amusement ride (in fact, some rides, such as the car of a roller coaster, can, themselves, serve as the platform 6), but which is preferably connected to cables 7 that are suspended from towers 8, preferably, but not necessarily three towers. As explained above, each of the cables 7 travels to an elevated point on a tower 8; and the platform 6 is elevated as the cables 7 are retracted down the towers 8. Attachment of the arm 2, and the lever arm 4 when employed, is a rotatable attachment to the platform 6.

Consequently, Applicant respectfully submits that claim 1 is patentably distinct from the device of Moser et al.

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MPEP § 2131 provides, in pertinent part:

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegall Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1239, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis*, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

And, since claims 2 through 36 are dependent upon claim 1, claims 2 through 36 are also, Applicant respectfully suggests, patentably distinct from the device of Moser et al.

Claim 2 of the present application states:

2. The controllably rotatable seat as recited in claim 1, further comprising:

a lever arm that connects said arm to said means for rotating so that the point of rotation of the means for rotating will be substantially aligned with the center of gravity of a participant sitting in said seat.

In the device of Moser et al. there are two axes of rotation (12 and 18).

Since the car (15) is the length of arms 7b and 8b distant from axis of rotation 12, it is known in accordance with basic principles of physics that axis of rotation 12 cannot be substantially aligned with the center of gravity of a participant sitting in a seat on the car (15).

Moreover, the very existence of multiple rows of seats in the device of Moser et al. preclude the axis of rotation from being aligned with the center of gravity of a participant sitting in such seats. Even more convincing evidence of the fact that in the device of Moser et al. the axis of rotation 18 is not aligned with the center of gravity of a participant sitting in a seat is the text in lines 51 through 56 of column 2 in Moser et al. as well as FIG. 2 of Moser et al. Such text asserts:

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. . . A further point to note is the advantageous position of axis 18 in relation to the component parts of car 15, which, by virtue of axis 18 being located, along line 19, close to the barycenter B (FIG. 2) of the car, is rotated fully with very little effort.

Therefore, Applicant respectfully believes that claim 2 is patentably distinct from the device of Moser et al. Being dependent upon claim 2, claims 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, and 21 would, Applicant respectfully suggests, also be patentably distinct from the device of Moser et al.

35 U.S.C. § 103

The Examiner continues:

Claims 3, 6, 8, 11, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moser et al.

Regarding claims 3, 8, and 23, it is noted that Moser et al. failed to teach the use of a timer in communication with the means for rotating. However, Moser et al disclosed the use of an electronic control unit (37) for controlling drive means (11) and it is well known in the art that such electronic control unit is typically contain a timer for controlling the duration of the rotation as well as the ride. Accordingly, it would have been a matter of design choice if not inherent to provide a time to the electronic control unit (37) for the reason as set forth above.

Regarding claims 6, 11, it is note that Moser et al failed to specifically point out that the electronic unit (37) as being programmable. However, it is well known in the art that such electronic unit (37) is typically a computer or equivalence and needless to say, most if not all computers are programmable. Accordingly, it would have been obvious to one of ordinary skill in the art to substitute the electronic unit (37) with any equivalent programmable device.

Claims 12, 13, 15, 16, 17, 18, 20, 21, 23, 27, 28, 32, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moser et al in view of Eyerly U.S. Patent 2,229,966.

Regarding claims 12, 17, 27, and 32, it is noted that Moser et al failed to teach the user of means for retaining a participant to the seat. However, such seat-retaining device is very well known in the art as evidenced by lap belt (see Fig. 3) of Eyerly. Therefore, it would have been obvious to one of ordinary skill

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in the art to modify the seats of Moser et al with the seat-retaining device as taught by Eyerly for the purpose of providing safety for the user.

Regarding claims 13, 15, 16, 18, 20, 21, 23, 28, and 33, please the above explanations for the respective subject matter.

Although Applicant respectfully does not necessarily agree with the Examiner's reasoning, Applicant respectfully suggests that the discussion above under 35 U.S.C. § 102 demonstrates that claim 1 is so patentably distinct from Moser et al. that, with the other claims all being dependent on claim 1, no matter how Moser et al. is modified by the knowledge of the art referenced by the Examiner or by Eyerly (United States patent no. 2,229,966), it would not create the device of any of the claims rejected by the Examiner under 35 U.S.C. § 103.

Applicant respectfully requests the Examiner to allow claims 1 through 36.

In view of the preceding discussion, Applicant has not yet modified claims 4, 9, 14, 19, 24, 29, and 34 but appreciates the Examiner's courteous indication that they would be allowable if rewritten in independent form.

DATED this 18th day of February, 2004.

Respectfully,

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